

ATTACHMENT 5

INSPECTION PLAN

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LIST OF ACRONYMS

ACAMS	Automatic Continuous Air Monitoring System
ACS	Agent Collection System
AWFCO	Automatic Waste Feed Cut-Off
BDS	Bulk Drain Station
BRA	Brine Reduction Area
CEMS	Continuous Emission Monitoring System
CFR	Code of Federal Regulations
CHB	Container Handling Building
DAAMS	Depot Area Air Monitoring System
DCC	Document Control Center
DFS	Deactivation Furnace System
DSHW	Division of Solid and Hazardous Waste
ECV	Explosive Containment Room Vestibule
HEPA	High Efficiency Particulate Air
HWMU	Hazardous Waste Management Unit
ICU	Intermittent Collection Unit
LIC	Liquid Incinerator
MDB	Munitions Demilitarization Building
MDM	Multiposition Demilitarization Machine
MMS	Multi-Munitions Handling System
MPF	Metal Parts Furnace
NFPA	National Fire Protection Association
NFC	National Fire Code
ONC	On-Site Container
PAS	Pollution Abatement System
PDARS	Process Data Acquisition and Recording System
PHS	Projectile Handling System
PMD	Projectile/Mortar Disassembly Machine
RCRA	Resource Conservation and Recovery Act
RHA	Residue Handling Area
SDS	Spent Decon Solution
TMA	Toxic Maintenance Area
TOCDF	Tooele Chemical Agent Disposal Facility
UPA	Unpack Area
UPMC	Upper Munitions Corridor
UPS	Uninterruptible Power Supply

5.1 **INSPECTION PLAN/SCHEDULE [R315-8-2.6; R315-8-9.5; R315-8-10 [40 CFR 264, Subpart J]; R315-8-15.7; r315-3-5(b)(5)]**

5.1.1 The inspection required under R315-8-2.6 of permitted Hazardous Waste Management Units (HWMUs) is intended to minimize and prevent releases of hazardous waste to the environment and to protect human health. The frequency at which the inspections must occur is specified by regulation and varies depending on the type of HWMU being inspected.

5.1.2 Table 5-1 lists the HWMUs permitted under the Tooele Chemical Agent Disposal Facility (TOCDF) Hazardous Waste Part B Permit, their regulation-based required inspection frequency, and the method by which each HWMU is inspected.

TABLE 5-1 HAZARDOUS WASTE MANAGEMENT UNIT INSPECTION SCHEDULE & METHODS OF INSPECTION				
HAZARDOUS WASTE MANAGEMENT UNIT	INSPECTION FREQUENCY REGULATION	LOCATION	AGENT VENTILATIO N CATEGORY ¹	FREQUENCY INSPECTION METHOD ²
CONTAINER STORAGE				
Container Handling Building (CHB)	Weekly R315-8-9.5	Outside Munitions Demilitarizati on Building (MDB)	D	Weekly - Physical Visual Inspection of containers in the S-2 Warehouse , Igloos 1632 & 1633, and TMA Container Storage Area, secondary containment pallets (S-2 Warehouse, Igloos 1632 & 1633, and UPA only) and storage base(CHB and TMA Container Storage Area only). In the CHB and UPA: Automatic Continuous Air Monitoring System/Depot Area Air Monitoring System (ACAMS/DAAMS) used to determine leaking containers inside overpacks that remain in storage for longer than 7 days.
S-2 Warehouse	Weekly R315-8-9.5	Outside MDB	D	
Igloo 1632	Weekly R315-8-9.5	DCD Area 10	D	
Igloo 1633	Weekly R315-8-9.5	DCD Area 10	D	
Unpack Area (UPA)	Weekly R315-8-9.5	Inside MDB	C	
Toxic Maintenance Area (TMA) Container Storage	Weekly R315-8-9.5	Inside MDB	A	
TMA Airlock Area	Weekly R315-8-9.5	Inside MDB	C	
TMA Decon Area	Weekly R315-8-9.5	Inside MDB	A/B	
Explosive Containment Room Vestibule	Weekly R315-8-9.5	Inside MDB	A/B	
Upstairs Munitions Corridor	Weekly R315-8-9.5	Inside MDB	A/B	
INCINERATORS				
Liquid Incinerator #1	Daily R315-8-15.7(b), (c)	Inside MDB	A/B	Daily - Visual Inspection performed using closed circuit television and
Liquid Incinerator #2			A/B	
Metal Parts Furnace			B	

TABLE 5-1 HAZARDOUS WASTE MANAGEMENT UNIT INSPECTION SCHEDULE & METHODS OF INSPECTION				
HAZARDOUS WASTE MANAGEMENT UNIT	INSPECTION FREQUENCY REGULATION	LOCATION	AGENT VENTILATIO N CATEGORY ¹	FREQUENCY INSPECTION METHOD ²
Deactivation Furnace System			B	process data observed from control screens. Monthly - Physical Visual Inspection.
INCINERATOR ANCILLARY EQUIPMENT				
Incinerator Process Control/RCRA Compliance Instrumentation	Based on Frequency stated in Calibration Plan (Attachment 6)	Not Applicable	Not Applicable	Calibration - Calibration Frequency based on instrument type.
Demil Machines/Conveyors	Daily R315-8-15.7(b)	Inside MDB	A, A/B	Daily - Visual Inspection performed using closed circuit television and process data observed from control screens.
Pollution Abatement Systems	Daily R315-8-15.7(b)	Outside MDB	D	Daily - Physical Visual Inspection.
STORAGE/TREATMENT UNITS				
Agent Collection System (ACS) ACS-Tank-101 ACS-Tank-102	Daily R315-8-10[40 CFR 264.195(a), (b)]	Inside MDB	A	Daily - Physical visual inspection or Visual Inspection performed using closed circuit television and process data observed from control screens.
Spent Decon Solution (SDS) SDS-Tank-101 SDS-Tank-102 SDS-Tank-103				Weekly - Physical Visual Inspection.
SDS Ancillary Tank Systems (24-Hour ICU and Secondary Containment Sumps)		Inside MDB	A, A/B, C	Daily - Visual Inspection performed by use of the sump level indicators.
Brine Reduction Area (BRA) BRA-Tank-101 BRA-Tank-102 BRA-Tank-201 BRA-Tank-202		Outside MDB	D	Daily - Physical Visual Inspection Cathodic Protection – Annually - Confirm proper operation. Every Other Month – Inspect/Test Sources of Impressed Current
BRA ANCILLARY EQUIPMENT				
Pollution Abatement System	Daily R315-8-2.6	Outside MDB	D	Daily - Physical Visual Inspection
¹ Agent Ventilation Categories are determined based on the probability of agent contamination. The ranking system scales from A (highest probability) to E (no probability). More ventilation air is required to be moved through areas as the probability of agent contamination increases. The level of personal protective equipment also increases as the probability of agent contamination increases.				
² Inspections performed by the control room operators through the use of closed circuit television cameras and process data acquisition systems are referred to as "Visual Inspections". Inspections performed by personnel present at the actual location are referred to as "Physical Visual Inspections."				

- 5.1.3 Table 5-2 includes additional inspections performed on systems supporting the treatment of hazardous waste at the TOCDF. These inspections are intended to prevent and minimize releases of hazardous waste and to ensure that emergency equipment is available and functional.

Table 5-2 TOCDF SUPPORT SYSTEM INSPECTIONS		
SYSTEM/ITEM INSPECTED	INSPECTION FREQUENCY REGULATION	METHOD OF INSPECTION
Hazardous Waste Load/Unload Areas	Daily (when in use) R315-8-2.6(b)(4)	Physical Visual Inspection
Agent Monitors	Daily R315-8-2.6(b)(4)	Challenge
MDB RCRA Permitted Sumps (Category C)	Daily	Physical Visual Inspection
MDB RCRA Permitted Sumps (Category B and A/B)	Daily	Visual Inspection performed by use of sump level indicators
MDB Ventilation Carbon Filter System	Daily	Visual Inspection performed using process data observed from control screens.
Safety/Emergency Equipment Inspections		
Emergency Generators	Monthly R315-8-2.6(b)(1)	Operational Test
Uninterruptible Power Supply		Physical Visual Inspection
Security		Physical Visual Inspection
Emergency Power System	Annually R315-8-2.6(b)(1)	Operational Test
Evacuation Notification System	Weekly R315-8-2.6(b)(1)	Operational Test
Fire Protection Systems	Semi-annually & Annually R315-8-2.6(b)(1)	Visual & Operational Tests
Hazmat Van and Decon Trailer	Monthly R315-8-2.6(b)(1)	Physical Visual Inspection

5.2 METHOD OF INSPECTION BASIS

- 5.2.1 The method of inspection is based on the location of the HWMU relative to the Munitions Demilitarization Building (MDB). Due to the extreme toxicity of the chemical agent, the TOCDF is designed to minimize the number of times workers have the potential of being exposed to chemical agents. This is done primarily by the extensive application of automated equipment, closed circuit television cameras, and distributed Process Data Acquisition and Recording System (PDARS) in areas where the probability of chemical agent contamination is high.
- 5.2.2 To lessen the potential of chemical agent exposure to workers, the inspections of HWMUs located in areas having a high probability of chemical agent contamination (either airborne or liquid) are performed by control room operators through the use of closed circuit television cameras and the observations of critical process parameters displayed on the control room monitors (i.e. "Visual Inspections," see last column of Table 5-1).
- 5.2.3 Areas where the probability of chemical agent contamination is low are inspected by personnel present at the physical location (i.e. "Physical Inspections," see last column of Table 5-1).

5.3 **INSPECTIONS**

5.3.1 The following describes the inspections to be performed at each HWMU and support system by category. Inspections specific to each HWMU and support system listed in the first column of Table 5-1 and Table 5-2 can be found in Tables 5-4 through 5-29¹ of this plan. The inspection logs used to record the results of each inspection can be found in the Inspection Log Sheet Attachment. Inspection log sheets shall be filled out completely and accurately by inspectors.

5.3.1.1 **Container Storage [R315-8-9.5]**

5.3.1.1.1 Chemical munitions and bulk containers of chemical agents are stored in the CHB prior to being transferred to the MDB to begin the demilitarization process. While stored in the CHB, munitions and bulk containers are kept in sealed overpacks. The type of munition overpack used is an On-Site Container (ONC). Likewise, chemical munitions and bulk containers of chemical agents are stored in the UPA, Explosive Containment Room Vestibule (ECV), and the Upstairs Munitions Corridor (UPMC), and the TMA Airlock/Decon Area. While stored in the UPA, non-leaking munitions and bulk containers shall be placed on secondary containment pallets or kept in the overpacks, described above, which provide secondary containment.

5.3.1.1.2 Containers with site-generated waste are stored in the S-2 Warehouse and DCD Igloos 1632 and 1633. While stored in the S-2 Warehouse and Igloos 1632 and 1633, the containers shall remain closed except when adding or removing waste (includes periodically monitoring the vapor space within the container).

5.3.1.1.3 Containerized waste and agent-contaminated equipment and parts are stored in the TMA Container Storage Area.

5.3.1.1.4 The overpacks provide a level of containment in addition to the CHB and UPA storage area base because they are liquid tight; have the capacity to contain the entire volume of the agent fill of the munitions and bulk containers stored inside them; and are not opened while they are in the CHB.² Overpacks used in the CHB shall also be vapor tight.

5.3.1.1.5 The air inside all overpacks stored in the CHB and in the UPA for more than seven days is sampled and analyzed on the seventh day and every seventh day thereafter by an agent monitor. The results of the sample analysis are available before the end of the eighth day the overpack is in storage.

5.3.1.1.6 Overpacks found to be containing munitions or bulk containers that are leaking are processed on a priority basis or moved to a permitted storage area.

5.3.1.1.7 ONCs are subjected to an integrity test to determine their ability to contain vapors prior to being placed into service and on an annual basis thereafter.

¹Tables 5-4 through 5-28 are located at the end of this plan.

²Although the overpacks are not opened in the CHB, they are opened in the UPA located in the transition area between the CHB and the MDB.

- 5.3.1.1.8 The storage base for each storage area (CHB, ECV, and UPMC) and the storage base in the Category A section of the TMA are inspected weekly for chips, cracks, and gaps in the concrete or concrete sealant. When used for container storage, the storage base of the TMA Airlock/Decon Area is inspected weekly for chips, cracks, and gaps in the concrete or concrete sealant. The containers and secondary containment pallets in the S-2 Warehouse, Igloos 1632 and 1633 and UPA are inspected weekly for rupture, corrosion, and released material.
- 5.3.1.2 **Incinerators [R315-8-15.7(b); R315-8-15.7(c)]**
- 5.3.1.2.1 The incinerators listed in Table 5-1 are located in individual rooms within the MDB. Because the demilitarization process occurring inside the MDB is operated remotely in order to lessen the potential exposure of workers to chemical agent, the equipment inside the MDB is provided with instrumentation to allow the control room operators sufficient process information to determine the performance of the equipment. By combining the visual observations made through the remote control closed circuit television cameras and process data displayed on the control screens, the control room operators can monitor the performance of the incinerators to a sufficient degree to prevent releases of hazardous waste to the environment.
- 5.3.1.2.2 During incinerator operation, the possibility of agent contamination within the rooms prevents unplanned access by personnel.
- 5.3.1.2.3 Physical entry to the incinerator rooms does not occur on a regular predetermined basis because shutdowns of the incinerators are planned on an as-needed basis (i.e. irregular frequency). Process control/process parameter sensors and remote controlled closed circuit television cameras throughout the MDB are used to conduct inspection in areas where unplanned physical entry is prevented because of agent contamination and/or high temperatures.
- 5.3.1.2.4 The daily visual inspections of LIC 1, LIC 2, MPF, and DFS primary chambers, waste feed systems, combustion air blowers, and fuel systems are conducted remotely using closed circuit television cameras and process data displayed on the control room monitors.
- 5.3.1.2.5 The daily inspections conducted on the secondary chambers of LIC 1, and LIC 2 are performed as a physical visual inspection. The temperatures of the rooms and the expected degree of agent contamination within the rooms housing the secondary chambers of the LICs are low enough to allow for unscheduled entry. The combination of the secondary chamber room temperature and the type of personal protective equipment that can be used place a lower heat load on the operator than that of the rooms housing the primary chambers.
- 5.3.1.2.6 Physical visual inspections of the components of each incinerator are conducted when personnel are in the rooms performing operational activities, maintenance activities, or both. Physical visual environmental inspections are conducted, at a minimum, on a monthly basis.
- 5.3.1.2.7 Physical visual inspections of the PAS are conducted on a daily basis.

5.3.1.2.8 Automatic Waste Feed Cut-Offs (AWFCO) shall be tested every 14 days. The method of testing is described in the Attachment 6 (Calibration Plan). Waste feed cut-off test documentation shall be included in the Operating Record.

5.4 **INCINERATOR ANCILLARY EQUIPMENT**

5.4.1 **Process Control/RCRA Compliance Instrumentation**

5.4.1.1 The process control instrumentation associated with specific permit conditions is listed in the Calibration Plan (Attachment 6). The frequency of calibration is based on the type of instrument (e.g. temperature transmitter, pressure transmitter, etc.).

5.4.1.2 A commercially available calibration system is used as a tool in performing calibration and maintaining calibration records. The system consists of numerous hand-held calibrators/data recorders and an associated database.

5.4.1.3 Calibration records of incinerator process control instrumentation that are not Continuous Emission Monitoring System (CEMS) analyzers shall be maintained in the database associated with the calibration system.

5.4.1.4 The technician calibrates each instrument and records sufficient information to demonstrate the following: instrument Tag ID, name of person performing the calibration, date calibration was performed, time calibration was performed, location of calibration event (Manufacturer, Shop, or Field), % error as found in an instrument that can be calibrated, % error as left in an instrument that can be calibrated, and the calibrator values fed to the instrument that were used to determine % error.

5.4.1.5 Data recorded on the hand held calibrator/data recorders is downloaded to the database. The database is then used to generate various reports. If additional information is required, custom reports are generated at the time the information is requested.

5.4.1.6 The calibration plan and examples of calibration log sheets associated with the CEMS are included in the TOCDF Continuous Emission Monitoring Plan. This Plan is on file at the Utah Division of Solid and Hazardous Waste (DSHW) offices.

5.4.2 **Demilitarization Equipment**

5.4.2.1 Automated demilitarization equipment and Material Handling Systems are used throughout the MDB to prepare and feed chemical munitions and bulk containers of chemical agent to the incinerators. The disassembly process used at the TOCDF to separate the explosive and agent components of chemical munitions uses automated process equipment. Table 5-3 lists the automated demilitarization machines and material handling equipment that function as ancillary equipment to the incinerators.

Table 5-3 AUTOMATED DEMILITARIZATION MACHINES & ASSOCIATED EQUIPMENT		
ITEM DESCRIPTION (quantity)	LOCATION	METHOD OF OBSERVATION
Explosive Component Removal		

Table 5-3 AUTOMATED DEMILITARIZATION MACHINES & ASSOCIATED EQUIPMENT		
ITEM DESCRIPTION (quantity)	LOCATION	METHOD OF OBSERVATION
Projectile/Mortar Disassembly Machine (2)	Explosive Containment Rooms A & B	Control Room Operators using closed circuit television cameras and data presented on control room screens to oversee processing of munitions
Material Transfer		
Projectile Tilting Conveyor (2)	Munitions Corridor	Same as above
Multi-position Loader (2)	Munitions Corridor	Same as above
Agent Component Removal		
Bulk Drain Station (2)	Munitions Processing Bay	Same as above
Multipurpose Demil Machine/Pick and Place Machine (3)		
Material Transfer		
Associated Conveyors	Throughout MDB	Same as above

5.4.2.2 Automation is used to remove the operator from the explosive and chemical agent hazards; force the steps in the disassemble/explosive separation/agent separation process to be executed in the same sequence every time; prevent the disassembly process from proceeding should a process step not be executed or interlocked components fail to complete their preprogrammed sequence; and sequence the feeding of munitions to the incinerators (i.e., the DFS).

5.4.2.3 Automating the disassembly explosive/agent separation process in no way relieves the demilitarization machine operator from overseeing the process while it is in progress. There is a dedicated operator for each type of demilitarization machine. Through the use of closed circuit television cameras and dedicated demilitarization machine process screens in the control room, the operator can determine what step of demilitarization each munition or bulk container is in.

5.4.2.4 Should a machine malfunction, the demil line supported by that machine stops until the problem is corrected. The process step each demil machine is performing is displayed on the control room screen so that the operator can determine which process sequence step was not completed. The process line supported by the machine in malfunction cannot be started again (i.e., the fail safe interlock) until the problem is corrected. The demil machine operator is required to observe the demil machines process munitions and bulk containers while the machines are in automatic mode to ensure that any stops in the programmed process sequence are corrected as soon as possible.

5.4.2.5 The munitions demilitarization processing lines are inspected daily to ensure that the equipment is functioning properly and the processing of a particular munition item has not been overlooked because of misplacing of the item on the floor or in reject holding locations. The operation of the demil machines is under observation by the demil control room operators at all times.

5.4.3 Incinerator Pollution Abatement Systems

- 5.4.3.1 Components of each incinerator's PAS undergo a daily physical visual inspection. PAS sump 110 is inspected daily for the presence of liquids. Accumulated liquids, in excess of three inches depth, are removed within 24 hours of detection and managed in accordance with Attachment 2 (Waste Analysis Plan).

5.5 **STORAGE/TREATMENT UNITS [R315-8-10 [40 CFR 264.195(a); 264.195(b)]]**

- 5.5.1 Table 5-1 lists the permitted Treatment/Storage Units that are required to undergo a daily environmental inspection. HWMUs ACS-TANK-101, ACS-TANK-102, SDS-TANK-101, SDS-TANK-102, and SDS-TANK-103 are located inside the MDB and are under the same engineering controls previously described. Because access is limited to the area where these tanks are located by the high potential of chemical agent contamination, the daily environmental inspection is performed by the control room operators using remote controlled closed circuit television cameras and process data displayed on the control room monitors. The associated secondary containment systems are inspected for the presence of liquids by observing the status of the secondary containment systems sump liquid level indicators. The presence of a level alarm indicates liquid in the sump. A physical visual inspection shall be performed on the permitted treatment/storage units located in the MDB at a minimum on a weekly basis.

- 5.5.2 During the physical inspection, the secondary containment systems associated with the tanks located in the Toxic Cubicle are inspected for cracks, gaps, and the deterioration of concrete sealer. Ultrasonic thickness testing of the SDS tanks is also performed during the physical inspection on an annual basis.

- 5.5.3 Storage/Treatment units and their associated secondary containment systems located outside the MDB undergo a daily physical visual inspection.

5.6 **LOAD/UNLOAD AREAS [R315-8-2.6(b)(4)]**

- 5.6.1 Areas located outside engineering controls that are used to load and unload hazardous waste are: the CHB where overpacked bulk containers and munitions are received; outside of the Residue Handling Area (RHA); and locations where incinerator solid residues are discharged.

- 5.6.2 Load/Unload areas undergo a daily physical visual inspection (when in use) for discolored and stained soil or concrete, spilled residues of hazardous waste, and if applicable, proper container labeling, and usable incinerator residue container capacity.

5.7 **AGENT MONITORS**

- 5.7.1 Low-level agent monitors are used to determine the airborne concentration of chemical agent in the workplace and exhaust stack gases. The low-level agent monitors used are the Automatic Continuous Air Monitoring System (ACAMS), and the Depot Area Air Monitoring System (DAAMS). The ACAMS and DAAMS are used throughout the TOCDF site.

- 5.7.2 The inspection of, and the need to calibrate each ACAMS are based on the results of agent challenge tests. ACAMS are “challenged” by injecting a dilute solution of chemical agent into the monitor and comparing the resulting spike and absorption column retention time (as recorded on the unit's strip chart) to those that are expected.
- 5.7.3 The frequency at which ACAMS are challenged is based on the sampling location. The frequencies are specified in Table 5-17.
- 5.7.4 The calibration methods used for ACAMS at the TOCDF are described in the Laboratory Operating Procedure titled “Automatic Continuous Air Monitoring System” (TE-LOP-524). Examples of the agent challenge and calibration log sheets are included in TE-LOP-524. Logbooks are kept at each ACAMS station and documentation of ACAMS challenge tests, calibrations and repairs for all ACAMS are maintained on site in addition to those listed above.
- 5.8 **24-HOUR INTERMITTENT COLLECTION UNITS AND OTHER PERMITTED SUMPS**
- 5.8.1 All 24-Hour Intermittent Collection Units (ICUs) are equipped with pumps and level indicators. Each 24-Hour ICU is “pumped down” every 24 hours until the sump's low-level indicator deactivates (provided the low-level indicator was activated because of the rising level of accumulating wastes).
- 5.8.2 Because the 24-Hour ICUs meet the definition of tanks, they shall be inspected daily.
- 5.8.3 The daily inspection of the ICU is conducted by an operator monitoring the liquid level in each ICU from the advisor screen located in the control room. Sumps containing liquid are pumped down within 24 hours from the time the liquid first began to accumulate (as indicated by the activation of the sump's level indicator). A PDARS report generated daily is used to demonstrate the ICUs were inspected and managed properly.
- 5.8.4 Once per week, each ICU is inspected by personnel physically located at the ICU (i.e., a physical visual inspection). This inspection consists of observing the level of liquid in the ICU and communicating the observation to the control room to determine if the actual level of liquid in the ICU corresponds with the correct alarm displayed on the advisor screen.
- 5.8.5 Other sumps (e.g., those sumps not classified as ICUs, etc.) consist of the following: MDB RCRA Permitted Sumps (Category A/B and B); MDB RCRA Permitted Sumps (Category C); Disconnected Sumps; and Secondary Containment Sumps (ACS, SDS, BRA Tanks, and Brine Loading Station sumps).
- 5.8.6 The MDB Permitted Sumps (Category A/B and B) are connected to the SDS hazardous waste management unit and shall be inspected using ICU procedures. The daily inspection of these sumps is conducted by an operator monitoring the liquid level in each sump from the advisor screen located in the control room. Sumps containing liquid shall be pumped down within 24 hours from the time the liquid first began to accumulate (as indicated by the activation of the sump's level indicator). A PDARS report generated daily is used to demonstrate the sumps were inspected and are managed properly. The

transfer of each sump's contents is complete when the sump's low level indicator alarm is deactivated.

- 5.8.7 Once per week, each MDB Permitted Sump (Category A/B and B), with the exception of sumps SDS-PUMP-157 and -188, shall be inspected by personnel physically located at the sump (i.e., a physical visual inspection). Since sumps SDS-PUMP-157 and -188 are located in high temperature areas near the LICs and a cool down is required before a physical visual inspection can occur, the physical visual inspections for these sumps shall be done monthly. These inspections consist of the inspector observing the level of liquid in the sump and communicating the observation to the control room to verify the actual level of liquid in the sump corresponds with the correct alarm displayed on the advisor screen.
- 5.8.8 The MDB Permitted Sumps (Category C), which are connected to the SDS hazardous waste management unit, shall be inspected daily by physical visual inspections and shall be pumped down within 24 hours of detection. The transfer of each sump's contents is complete when the sump's low-level indicator alarm is deactivated.
- 5.8.9 The Disconnected Sumps mentioned above are not connected to the SDS hazardous waste management unit. Any hazardous waste collected in these sumps shall be managed according to the standards applicable to generators of hazardous waste (R315-5). The inspection requirements for the secondary containment sumps mentioned above are described in Tables 5-21 through 5-24.
- 5.8.10 During agent change over (i.e., the time period over which activities are conducted to prepare the TOCDF to treat a different type of chemical agent), each ICU and MDB Permitted Sump (Categories A/B, B, and C) shall be:
- 5.8.10.1 Triple rinsed with appropriate decontamination solution to decontaminate the sump and provide a basis for regulatory partial closure. At the time the sumps are triple rinsed, the function of each sump level switch will be checked. Each sump will be filled incrementally so that each of the level switches will be activated in sequence. The control room will verify the activation of each switch.
- 5.8.10.2 Completely emptied so the metal sump can be inspected for corrosion and integrity of the surface coating.
- 5.8.11 For ICUs, the following activities shall be performed annually and be documented:
- 5.8.11.1 Interstitial leak detection sensor will be removed and tested for proper function. The control room will verify activation of the leak detection sensor.
- 5.8.11.2 Interstitial space between the metal sump and the concrete liner will be checked for the presence of liquid.
- 5.9 **MDB HVAC CARBON FILTERS**
- 5.9.1 The MDB HVAC carbon filters shall be inspected daily to ensure proper operation and sufficient absorption media capacity.

- 5.9.2 Nine exhaust filter units are available, with any seven running at the same time. Each of the nine filter units contains a pre-filter, a High Efficiency Particulate Air (HEPA) filter, six individual banks of carbon filters, followed by a HEPA filter. Differential pressure sensors (used to determine plugging) are located across the pre-filter, the initial HEPA filter, the final HEPA filter, and one to measure the overall differential pressure across each filter unit. Agent monitoring (ACAMS and DAAMS tubes, used to determine saturation of the carbon bank) occurs in accordance with Attachment 22 (Agent Monitoring Plan). A flow sensor is placed in each filter's exhaust blower inlet to enable the control room operator to determine if any loss of performance has occurred in the filter unit's blower.
- 5.9.3 The inspection of the MDB carbon filter system shall be done daily and shall be performed by a control room operator observing the status of agent alarms, the differential pressure across the filter unit, and the exhaust blower flow rate of each operating exhaust filter unit.
- 5.10 **EMERGENCY AND SAFETY EQUIPMENT [R315-8-2.6(b); R315-8-2.6(c)]**
- 5.10.1 The design of the TOCDF includes emergency equipment to be used in the event of a fire or hazardous waste release. Additional inventories of supplies are set aside to be used in an emergency situation. Emergency equipment is inspected to ensure that it is available and functional in the event it has to be used. Included in this category are the emergency power generators, the security system, the site evacuation siren, the fire protection systems, and the Hazmat Van and Decon Trailer including the inventory of spill response equipment maintained on the vehicles.
- 5.10.2 **Emergency Power System/Uninterruptible Power Supply**
- 5.10.2.1 Each emergency generator shall be tested monthly to ensure the emergency generators function properly, and equipment and systems designated as essential loads continue to function if utility power is interrupted.
- 5.10.2.2 The emergency generators shall be tested by operating one emergency generator in either a loaded or unloaded configuration. This test format results in the performance of each emergency generator being evaluated on a monthly basis. The filter generator shall also be tested monthly by operating the generator in either a loaded or unloaded configuration.
- 5.10.2.3 The Uninterruptible Power Supply (UPS) shall be inspected monthly by checking the battery voltage. Annually, the Emergency Power System (e.g., both emergency generators, switchgear, etc.) and UPS shall be tested by performing power loss tests. The annual power loss tests may be scheduled events or may be unscheduled or naturally occurring events (e.g., power loss due to inclement weather, etc.).
- 5.10.3 **Security System**
- 5.10.3.1 The emphasis of the inspection of the security system is placed on the fence surrounding the TOCDF site, which is used to keep unauthorized personnel out. Warning signs are posted at approximately 100-foot intervals around the facility perimeter. The inspection is performed to ensure the integrity of the fencing system and determine if any warning signs are missing. Security lighting shall be inspected to ensure that all lights are working.

5.10.4 **Emergency Communication System**

5.10.4.1 The emphasis of the inspection of the TOCDF site communication system is placed upon the site evacuation siren. The siren shall be tested weekly to ensure proper operation.

5.10.4.1 Although other methods of communication are available on the site (i.e., phones, radios, public address system) there is no plan to inspect communication equipment because it is used daily as part of the methods of managing/operating the TOCDF.

5.10.5 **Fire Protection Systems**

5.10.5.1 Four types of fire suppressants are used in the TOCDF fire protection systems; Halon 1301, FM-200/FE-227, dry-chemical, and water. All system inspections conform to procedures and frequencies specified in the National Fire Protection Association (NFPA) - National Fire Code (NFC) 12A, 13, 17, and 2001.

5.10.5.2 Fire protection systems using Halon as a fire suppressant shall be inspected every six months to ensure a full charge of Halon is present in the Halon storage tanks. Fire protection systems using FM-200/FE-227 as a fire suppressant shall be inspected every six months to ensure a full charge of extinguishing agent is present in the FM-200/FE-227 storage tanks.

5.10.5.3 Fire protection systems using a dry chemical fire suppressant shall be inspected every six months to ensure that there is a sufficient compressed gas (nitrogen) to propel the dry chemical through the system.

5.10.5.4 Fire protection systems using water as a fire suppressant shall be tested annually to ensure that the water flow rate through the pipes feeding the system is sufficient.

5.10.6 **Hazmat Van and Decon Trailer**

5.10.6.1 The Hazmat Van shall be stocked with PPE and all equipment and supplies necessary for hazardous material spills, including shovels, brooms, bags, absorbents, etc. The Hazmat Van also carries equipment and supplies necessary to perform emergency decontamination. The Decon Trailer contains PPE and all equipment and supplies necessary to perform personnel decontamination. The trailer has one fixed rinse shower and one portable decontamination shower. A TOCDF truck is used to move the Decon Trailer to the scene. The Hazmat Van shall be inspected monthly to ensure that sufficient inventory of emergency response equipment is on hand, and that the equipment is functional.

5.11 **SPECIFIC INSPECTION PLANS AND LOG SHEETS**

5.11.1 Tables 5-4 through 5-28 contain the individual inspection plans for each of the HWMU and support systems previously discussed. Included in each plan are the items to be inspected, types of expected problems, and the inspection frequency.

5.11.2 The Inspection Log Sheet Attachment to Attachment 5 contains the inspection logs used to document that the inspections occurred and to communicate the corrective actions (if any)

that are required. All log sheets documenting the occurrence of required inspections and problems identified during each inspection shall be maintained in the Operating Record and shall be kept at the facility for a minimum of three years. The inspection log sheets shall be filled out completely and accurately by inspectors.

TABLE 5-4 ENVIRONMENTAL INSPECTION FOR THE CONTAINER HANDLING BUILDING (CHB) & SECONDARY CONTAINMENT SYSTEMS (OVERPACKS)		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Overpack Time in Storage	Review the CHB operating record to determine which overpacks will, or have been in storage for 7 days or more.	Daily
Deteriorating Containers (inside overpacks)	Monitor the interior air of all overpacks that have been in the CHB for 7 days.	(Every 7 days)
Containment System (Overpacks)	Conduct non-destructive integrity tests on overpacks.	Annually
Containers in Storage	Ensure that the number of full overpacks in storage does not exceed 48.	Daily
Container Labels	Inspect all overpacks in storage to ensure they are correctly labeled	Weekly
Material Handling Equipment	Observe material handling equipment during operation to determine any loss of performance.	Weekly
Storage Base	Inspect floors, trenches, and sumps for cracks, gaps in the concrete or the concrete coating.	Weekly
General Area	Inspect the ONC storage area for apparent spills or leaks from the overpacks.	Weekly
Notes: Physical visual inspection performed throughout the week by CHB Operator(s).		

TABLE 5-5 ENVIRONMENTAL INSPECTION FOR TMA CONTAINER STORAGE		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Deteriorating Containers	Inspect the containers for deterioration (i.e., rupture, corrosion, released material, etc.).	Weekly
Closed Containers	Ensure that all containers covers/closure devices are secured in a closed position so that there are no visible holes, gaps or other open spaces into the interior of the container. R315-8-22 [40 CFR 264.1086(c)(3)] identifies allowable exceptions to this requirement.	Weekly
Storage Base	Inspect the floor and sumps for cracks and gaps in the concrete or the concrete coating.	Weekly
Containers in Storage	Ensure that the total volume of containers in storage does not exceed 2,200 gallons.	Weekly
Container Labels	Inspect all containers in storage to ensure they are correctly labeled.	Weekly
Material Handling Equipment	Observe material handling equipment during operation to determine any loss of performance.	Weekly
General Area	Inspect the TMA area for apparent spills or leaks from the containers.	Weekly
Notes: Physical visual inspection performed throughout the week by TMA operator(s).		

TABLE 5-6 ENVIRONMENTAL INSPECTION FOR TMA AIRLOCK/DECON AREA		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Storage Base	Inspect the floor and sumps for cracks and gaps in the concrete or the concrete coating.	Weekly
Containers in Storage (Permitted Capacity)	Ensure that the number of overpacks in storage does not exceed 2.	Weekly
Closed Containers	Ensure that all container covers/closure devices are secured in a closed position so that there are no visible holes, gaps or other open spaces into the interior of the container. R315-8-22 [40 CFR 264.1086(c)(3)] identifies allowable exceptions to this requirement.	Weekly
Container Labels	Inspect all containers in storage to ensure they are correctly labeled.	Weekly
Material Handling Equipment	Observe material handling equipment during operation to determine any loss of performance.	Weekly
General Area	Inspect the TMA Airlock/Decon Areas for apparent spills or leaks from the containers.	Weekly
Notes: When overpacks are in storage, visual inspection performed throughout the week by operator(s).		

**TABLE 5-7
ENVIRONMENTAL INSPECTION
FOR THE
UNPACK AREA (UPA) CONTAINER STORAGE AREA**

ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Overpack Time in Storage	Review the UPA operating record to determine which overpacks have been in storage for more than 7 days.	Daily
Deteriorating/Leaking Containers (inside overpacks)	Monitor the interior air of all overpacks that have been in the UPA for more than 7 days.	Every seven days
Closed Containers (not in ONCs)	Ensure that all container covers/closure devices are secured in a closed position so that there are no visible holes, gaps or other open spaces into the interior of the container. R315-8-22 [40 CFR 264.1086(c)(3)] identifies allowable exceptions to this requirement.	Weekly
Permitted Capacity	Ensure that the number of closed (full) overpacks in storage does not exceed 9 ONCs.	Daily
Overpack Labels	Inspect all overpacks in storage to ensure they are correctly labeled.	Weekly
Material Handling Equipment	Observe material handling equipment during operation to determine any loss of performance.	Weekly
Storage Base	Inspect floors, trenches, and sumps for cracks, gaps in the concrete or the concrete coating.	Weekly when storing leaking containers
General Area	Inspect the storage area for apparent spills or leaks from the overpacks/containers.	Weekly
Notes: Physical visual inspection performed by MDB/UPA Operator(s).		

TABLE 5-7 (a) ADDITIONAL ENVIRONMENTAL INSPECTION FOR THE UNPACK AREA (UPA) WHEN SECONDARY CONTAINMENT PALLETS ARE USED		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Deteriorating Containers and Secondary Containment Pallets	Inspect the containers and the secondary containment pallets for deterioration (i.e., rupture, corrosion, released material, etc.).	Weekly
Closed Containers (not in ONCs)	Ensure that all container covers/closure devices are secured in a closed position so that there are no visible holes, gaps or other open spaces into the interior of the container. R315-8-22 [40 CFR 264.1086(c)(3)] identifies allowable exceptions to this requirement.	Weekly
Containers per Pallet	Ensure that the number of containers stored per pallet does not exceed the quantities specified in the Inspection Log.	Weekly
Storage Configuration	Ensure that the munition(s) or pallet(s) of munitions do not extend over the edge of the secondary containment pallet.	Weekly
Permitted Capacity	Ensure that the total number of overpacks and secondary containment pallets used to store containers does not exceed the limits specified in the Inspection Log.	Weekly
General Area	Inspect the storage area for apparent spills or leaks from the containers or secondary containment pallets.	Weekly
Notes: Physical visual inspection performed by operator(s).		

**TABLE 5-8
ENVIRONMENTAL INSPECTION
FOR THE
EXPLOSIVE CONTAINMENT ROOM VESTIBULE (ECV)
CONTAINER STORAGE AREA**

ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Deteriorating/Leaking Containers	Inspect the containers for deterioration (i.e., rupture, corrosion, released material, etc.).	Weekly
Closed Containers	Ensure that all container covers/closure devices are secured in a closed position so that there are no visible holes, gaps or other open spaces into the interior of the container. R315-8-22 [40 CFR 264.1086(c)(3)] identifies allowable exceptions to this requirement.	Weekly
Containers in Storage (Permitted Capacity)	Ensure that the number of containers in storage does not exceed the limits specified in Module III.	Weekly
Storage Base	Inspect floors for cracks or gaps in the concrete or the concrete coating.	Weekly
General Area	Inspect the storage area for apparent spills or leaks from the containers.	Weekly
<p>Notes: Visual inspection performed remotely by Control Room Operator(s).</p> <p>Mustard 155mm projectiles that have been rejected from the PMD back into the ECV solely due to a stuck burster do not have nose closures. In this case, the burster well continues to function as the container closure device that contains the agent inside. Verification will consist of 1) the lack of visible leakage, and 2) the lack of an ECV ACAMS reading.</p>		

**TABLE 5-9
ENVIRONMENTAL INSPECTION
FOR THE
UPSTAIRS MUNITIONS CORRIDOR (UPMC)
CONTAINER STORAGE AREA**

ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Deteriorating/Leaking Containers	Inspect the containers for deterioration (i.e., rupture, corrosion, released material, etc.).	Weekly
Closed Containers	Ensure that all container covers/closure devices are secured in a closed position so that there are no visible holes, gaps or other open spaces into the interior of the container. R315-8-22 [40 CFR 264.1086(c)(3)] identifies allowable exceptions to this requirement.	Weekly
Containers in Storage (Permitted Capacity)	Ensure that the number of containers in storage does not exceed the limits specified in Module III.	Weekly
Storage Base	Inspect floors for cracks and gaps in the concrete or the concrete coating.	Weekly
General Area	Inspect the storage area for apparent spills or leaks from the containers.	Weekly
<p>Notes: Visual inspection performed remotely by Control Room Operator(s).</p>		

TABLE 5-10 ENVIRONMENTAL INSPECTION FOR THE S-2 WAREHOUSE CONTAINER STORAGE AREA & SECONDARY CONTAINMENT SYSTEMS		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Deteriorating Containers and Secondary Containment Pallets	Inspect the containers and the secondary containment pallets for deterioration (i.e., rupture, corrosion, released material, etc.).	Weekly
Closed Containers	Ensure that all container covers/closure devices are secured in a closed position so that there are no visible holes, gaps or other open spaces into the interior of the container. R315-8-22 [40 CFR 264.1086(c)(3)] identifies allowable exceptions to this requirement.	Weekly
Containers in Storage	Ensure that the total volume of containers in storage does not exceed 38,720 gallons. Ensure that the volume of containers per secondary containment pallet does not exceed 600 gallons per pallet and the volume of the largest container on a secondary containment pallet does not exceed 60 gallons ¹ .	Weekly
Segregation of Incompatible Wastes	Ensure that incompatible waste is not placed on a secondary containment pallet at the same time.	Weekly
Container Labels	Inspect all containers in storage to ensure they are correctly labeled.	Weekly
Material Handling Equipment	Observe material handling equipment during operation to determine any loss of performance.	Weekly
General Area	Inspect S-2 Warehouse area for apparent spills or leaks from the containers or secondary containment pallets.	Weekly
Notes: ¹ Attachment 12 describes circumstances where a larger container may be stored on a pallet in the S-2 Warehouse. Physical visual inspection performed throughout the week by S-2 Warehouse operator(s).		

TABLE 5-11 ENVIRONMENTAL INSPECTION FOR LIC 1 & LIC 2 PRIMARY CHAMBERS		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Primary Chamber Waste Handling/Piping	Inspect for leaks in the agent feed line at threaded and flanged pipe connections.	Daily
Primary Chamber	Inspect for fugitive emissions and hot spots on the outer shell of the primary chamber, which would indicate a breakdown of the chamber's refractory.	Daily
Primary Chamber Combustion Air Blower	Evaluate combustion air blower performance through Control Room advisor screen observations.	Daily
LIC Primary Chamber Room Floor	Inspect for residues of lubricant and/or wastes beneath the components of the LIC agent feed system and the LIC exhaust gas ductwork.	Daily
Waste Feed Cut-Off Mechanism	Test control circuit and document that waste feed is stopped.	Every 14 days
Notes: Visual inspections are performed remotely through the use of Closed Circuit Television by the incinerator operator in the Control Room. Physical visual inspections are performed at a minimum on a monthly basis.		

TABLE 5-12 ENVIRONMENTAL INSPECTION FOR LIC 1 & LIC 2 SECONDARY CHAMBERS		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Secondary Chamber Waste Handling/Piping	Inspect for releases of wastes from the spent decon solution feed line at welded and flanged pipe connections.	Daily
Secondary Chamber	Inspect for fugitive emissions, and hot spots on the outer shell of the secondary chamber, which would indicate a breakdown of the chamber's refractory. Inspect interior of secondary chamber through the view port to ensure the slag level has not reached the top of the view port.	Daily
Secondary Chamber Combustion Air Blower	Inspect for loss of lubrication and vibration. Check for broken or missing anchor bolts.	Daily
Secondary Chamber Room Floor	Inspect for residues of lubricant and/or wastes beneath the components of the spent decon feed system and the LIC secondary chamber ductwork having a potential to cause a release of wastes or fugitive emissions.	Daily
Notes: Physical visual inspections are performed daily by Operator(s)		

TABLE 5-13 ENVIRONMENTAL INSPECTION FOR THE METAL PARTS FURNACE		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Waste Handling System	Inspect for movement of internal conveyor system from the control panel by ensuring conveyor drive chains are in motion.	Daily
Combustion Air Blowers	Evaluate combustion air blower performance through Control Room advisor screen observations.	Daily
Primary Chamber	Inspect for hot spots on the primary chamber outer shell, which would indicate a breakdown of the incinerator's refractory.	Daily
Afterburner	Inspect afterburner shell for hot spots, which would indicate a breakdown of the afterburner's refractory. Inspect ductwork between primary chamber and afterburner for fugitive emissions.	Daily
Waste Feed Cut-off Mechanism	Test control circuit and document that waste feed is stopped.	Every 14 days
Notes: Visual inspections are performed remotely through the use of Closed Circuit Television by the incinerator operator in the Control Room. Physical visual inspections are performed at a minimum on a monthly basis.		

**TABLE 5-14
ENVIRONMENTAL INSPECTION
FOR THE
DEACTIVATION FURNACE SYSTEM**

ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Waste Handling System	Inspect the Projectile/Mortar Disassembly Machines within ECR 1 and ECR 2 to ensure that no explosive residues or explosive munitions components are collecting on the associated material handling equipment. Inspect for leaking hydraulic hoses/connections and accumulated residues of chemical agent.	Daily
Combustion Air Blower	Evaluate combustion air blower performance through Control Room advisor screen observations.	Daily
Rotary Kiln (Primary Chamber)	Inspect the rotary kiln for fugitive emissions.	Daily
Rotary Kiln Drive	Inspect the Rotary kiln trunnion rollers for smooth motion.	Daily
Rotary Kiln Drive Lubrication System	Inspect the Rotary kiln trunnion bearing lubrication system for leaks and spills.	Daily
Heated Discharge Conveyor	Inspect the Heated Discharge Conveyor motion indicator plate for smooth even operation.	Daily
*Heated Discharge Conveyor	Inspect the floor beneath the Heated Discharge Conveyor for residues of accumulated wastes.	Monthly
Automatic Waste Feed Cut-offs	Test control circuit and document that waste feed is stopped.	Every 14 days
Notes: Visual inspections are performed remotely through the use of Closed Circuit Television by the incinerator operator in the Control Room. Physical visual inspections are performed at a minimum on a monthly basis. *Inspection performed monthly during physical visual inspection.		

**TABLE 5-15
ENVIRONMENTAL INSPECTION
FOR
LIC 1, LIC 2, MPF, & DFS
POLLUTION ABATEMENT SYSTEMS**

ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
DFS Afterburner Combustion Blower	Inspect blower for excessive noise, vibration, loss of lubricant, and missing or broken anchor bolts.	Daily
DFS Afterburner	Inspect afterburner shell for hot spot, which would indicate a breakdown of refractory.	Daily
Mechanical Locks for DFS Isolation and Air Intake Valves	During normal operations, XV-862 will be locked in the open position and HV-863 will be locked in the closed position. Inspect XV-862 and HV-863 to ensure mechanical locks are in place and secure.	Daily
Exhaust Gas (PAS) Ductwork	Inspect for fugitive emissions or residues at flanged duct connections and duct expansion joints. Inspect expansion joints for breaks that would result in leakage to the system.	Daily
Quench Tower	Inspect for brine residues at manway covers and released liquids from piping or pumps.	Daily
Venturi Scrubber	Check venturi plug valve and ensure that it operates freely. Inspect for releases of scrubber liquid from associated pumps and piping.	Daily
Packed Bed Scrubber	Inspect for scrubber liquid residues at manway cover. Inspect for release of scrubber liquid from associated pumps and piping.	Daily
Demister	Inspect for fugitive emissions or residues of scrubber liquid at the manway cover.	Daily
PAS-SUMP-110	Inspect for the presence of material and liquids in excess of three inches (3"). Check for oil sheen.	Daily
Bleed Air Damper	Ensure cover on bleed air damper is in place and secure.	Daily
PAS Blower	Inspect for excessive vibrations and loss of lubricant.	Daily
Scrubber Effluent Handling System	Inspect brine transfer line and associated pumps for leaks at pump seals and flanged pipefittings. Inspect for swaying pipe system during operation.	Daily
Notes: Physical visual inspection performed daily by Pollution Abatement System Operator(s).		

TABLE 5-16 ENVIRONMENTAL INSPECTION FOR LOAD/UNLOAD AREAS & INCINERATOR RESIDUE DISCHARGE AREAS		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
CHB Load/Unload Area	Visually inspect for discolored and stained soil/concrete and hazardous waste residues.	Daily
RHA Load/Unload Area (outside building)	same as above	Daily
MPF Metal Residue Discharge Area	Inspect for ash residues on concrete base underneath conveyor system.	Daily
DFS Cyclone Ash Discharge Area	Inspect for ash residue around receiving container. Ensure that the container is labeled as hazardous waste and that there is sufficient space in the container to receive ash that will be generated during operational period.	Daily
DFS Heated Discharge Conveyor Residue Discharge Area	Same as above	Daily
Notes: Physical visual inspections are performed daily (when in use).		

TABLE 5-17 INSPECTION FOR AGENT MONITORS		
ITEMS 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Common Stack (PAS701 and PAS 706)	Perform agent challenge test IAW Attachment 22 to determine the need to calibrate monitor, calibrate if agent test results in failure. Replace monitor if it can't be calibrated to specification.	Agent Challenge (Every 4 hrs.)
LIC 2 PAS Blower (PAS702)	Same as above	Agent Challenge (Every 4 hrs.)
LIC 1 PAS Blower (PAS703)	Same as above	Agent Challenge (Every 4 hrs.)
MPF PAS Blower (PAS704)	Same as above	Agent Challenge (Every 4 hrs. for VX and Daily for GB)
DFS PAS Blower (PAS705)	Same as above	Agent Challenge (Every 4 hrs. for VX and Daily for GB)
MDB Filter Stack (FIL601)	Perform agent challenge test IAW Attachment 22 to determine the need to calibrate monitor, calibrate if agent test results in failure. Replace monitor if it can't be calibrated to specification.	Agent Challenge (Daily)
Notes: The (TAG ID's) used are those that appear on the Control Room advisor screens and the Process Data Acquisition and Reporting System (PDARS) generated reports.		

**TABLE 5-18
ENVIRONMENTAL INSPECTION
FOR 24-HOUR INTERMITTENT COLLECTION UNITS**

ITEM 264.15(b)(1)	TYPE OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Waste Accumulation Time	Review Daily PDARS Sump Report to verify that no primary containment sump accumulated liquids for longer than 24 hours.	Daily
Sump Liquid Level Indicator	Visually inspect each primary containment sump to determine if sump's liquid level corresponds to level alarm displayed on control room advisor screen. Inspect for cracks and deterioration of protective coatings, rusting and any signs of leaks.	Weekly
Sump Liquid Level Indicators	Demonstrate function of Sump liquid level detectors by filling sump (can be done during agent change-over decontamination step).	Agent campaign change-over
Metal Sump	Completely empty sump and inspect metal sump for deteriorating surface coating, corrosion, and cracks.	Agent campaign change-over
Sump Interstitial Leak Detector	Remove interstitial leak detection probe and test function.	Annually
Sump Interstitial Space	Swath interstitial space through opening provided by removed interstitial leak detection probe to determine if space is dry.	Annually

**TABLE 5-19
ENVIRONMENTAL INSPECTION
FOR MDB RCRA PERMITTED SUMPS**

ITEM 264.15(b)(1)	TYPE OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
For Category A/B and B Sumps		
Material in Sump	Review Daily PDARS Sump Report to verify that no sump accumulated liquids for longer than 24 hours.	Daily
Sump Liquid Level Indicator	Physical visual inspection of each sump to determine if sump's liquid level corresponds to level alarm displayed on control room advisor screen. Inspect for cracks and deterioration of protective coatings, rusting and any signs of leaks.	Weekly
For Category C Sumps		
Material in Sump	Physical visual inspection to determine the presence of material in the sumps.	Daily
For Category A/B, B, and C Sumps		
Sump Liquid Level Indicators	Demonstrate function of sump liquid level detectors by filling sump (can be done during agent change-over decontamination step).	Agent campaign change-over
Metal Sump	Completely empty sump and inspect metal sump for deteriorating surface coating, corrosion, and cracks.	Agent campaign change-over
* Since sumps SDS-PUMP-157, and 188 are located in high temperature areas near the LICs and a cool down is required before a physical visual inspection can occur, the physical visual inspections for these sumps is done on a monthly frequency.		

TABLE 5-20 ENVIRONMENTAL INSPECTION FOR THE MUNITIONS DEMILITARIZATION BUILDING DEMILITARIZATION & MATERIAL HANDLING SYSTEMS		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Munitions/Bulk Container Demil Machines		
PHS-PMD-101	Observe the operation of the machines. Note the number of times each machine has to be put into manual mode because an interlock on the machine prevented further processing (in order to evaluate any deterioration in the machine's performance).	Daily
PHS-PMD-102		
MMS-BDS-101		
MMS-BDS-102		
PHS-MDM-101		
PHS-MDM-102		
PHS-MDM-103		
Material Handling Conveyor Systems		
Explosive Containment Vestibule	Visually inspect for munitions and/or munitions components not being transferred by conveyors due to hung up or falling on the floor. Ensure that all containers are able to be moved by material handling system. Record the number of rejects in the ECV and Munitions Processing Bay.	Daily
Explosive Containment Room(s)		
By-Pass Conveyor		
Projectile Tilting Conveyors		
Multiposition Loader(s)/Pick and Place Machines		
Buffer Storage Area (supporting Munitions Processing Bay)		
Munitions Corridor		
Munitions Processing Bay (including Pick and Place Machines)		
Buffer Storage Area (supporting MPF)		
Notes: Visual inspections are performed remotely through the use of Closed Circuit Television by an operator in the Control Room.		

TABLE 5-21 ENVIRONMENTAL INSPECTION FOR THE AGENT COLLECTION TANKS ACS-TANK-101, ACS-TANK-102 AND ACS TANK SECONDARY CONTAINMENT SYSTEM		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15 (b)(3)	FREQUENCY 264.15 (b)(4)
Level Indicators and Transmitters	Check level indicator transmitters for proper operation at control panel.	Daily
Tank Structure	Visually inspect for major corroded areas, discolored, or blistered surface coating, buckles or bulges in tank, corrosion around foundation, and evidence of overtopping.	Daily
Fixed Roof and Closure Devices	Visually inspect to check for defects that could result in air pollutant emissions. Defects include, but are not limited to, visible cracks, holes or gaps in the roof sections or between the roof and the tank wall; broken, cracked, or otherwise damaged seals or gaskets on closure devices; and broken or missing hatches, access covers, caps, or other closure devices.	Annually
Tank Area	Visually inspect for evidence of waste residue on floor.	Daily
Tank Supports	Visually inspect for discolored or blistered surface coating and corroded areas.	Daily
Pipe System, Valves, and Pumps	Visually inspect for leaks, vibration or swaying of pipe systems, missing pump anchor bolts.	Daily
Secondary Containment System SDS-PUMP-151	Visually inspect for the presence of liquid in secondary containment sump by observing the status of sump's liquid level indicator.	Daily
Secondary Containment System (including Toxic Cubicle Floor)	During physical visual inspection, inspect for cracks and deterioration of protective coating of secondary containment system and Toxic Cubicle floor. Also inspect all items as listed above.	Weekly
Notes: Visual inspections are performed remotely through the use of Closed Circuit Television by an operator in the Control Room. Physical visual inspections are performed at a minimum on a weekly basis.		

TABLE 5-22 ENVIRONMENTAL INSPECTION FOR THE SPENT DECONTAMINATION SOLUTION TANKS SDS-TANK-101, SDS-TANK-102, SDS-TANK-103 AND SDS-TANK SECONDARY CONTAINMENT SYSTEM		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15 (b)(3)	FREQUENCY 264.15 (b)(4)
Level Indicators and Transmitters	Check level indicator transmitters for proper operation at control panel	Daily
Tank Structure	Visually inspect for major corroded areas, discolored, or blistered surface coating, buckles or bulges in tank, corrosion around foundation, and evidence of overtopping.	Daily
Tank Area	Visually inspect for evidence of waste residue on floor.	Daily
Tank Supports	Visually inspect for discolored or blistered surface coating and corroded areas.	Daily
Pipe System, Valves, and Pumps	Inspect for leaks, vibration or swaying of pipe systems, missing pump anchor bolts.	Daily
Secondary Containment System SDS-PUMP-150	Visually inspect for the presence of liquid in secondary containment sump by observing the status of sump's liquid level indicator.	Daily
Ultrasonic Thickness Testing	Inspect for corrosion (i.e., loss of shell thickness). If the measured wall thickness is less than or equal to 0.25 inches, then the affected tank is taken out of service until the TOCDF and DSHW agree upon an appropriate course of action.	Annual
Secondary Containment System (including Toxic Cubicle Floor)	During physical visual inspection, inspect for cracks and deterioration of protective coating of secondary containment system and Toxic Cubicle floor. Also inspect all items as listed above.	Weekly
Notes: Visual inspections are performed remotely through the use of Closed Circuit Television by an operator in the Control Room. Physical visual inspections are performed at a minimum on a weekly basis.		

TABLE 5-23 ENVIRONMENTAL INSPECTION FOR THE BRINE REDUCTION AREA SURGE TANKS BRA-TANK-101, BRA-TANK-102, BRA-TANK-201, BRA-TANK-202, BRINE LOADING STATION, PIPE TRENCH & SECONDARY CONTAINMENT SYSTEM		
ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Level Indicators and Transmitters	Check level indicator and transmitter for proper operation at the tank.	Daily
Tank Structure	Visually inspect for major corroded areas, bulging or buckles in tank, waste residue stains on the sides of tanks and evidence of overtopping.	Daily
Pipe System, Valves, and Pumps	Visually inspect for leaks, vibration or swaying of operating pipe systems, missing pump anchor bolts, leaking pump seals.	Daily
Pipe Trench	Visually inspect for presence of liquids in secondary containment system. Ensure that there are no cracks or gaps in the coating used to seal the secondary containment trench.	Annually
Secondary Containment System (includes sump and Brine Loading Station)	Visually inspect for presence of liquids in secondary containment system and associated sump. Ensure that there are no cracks or gaps in the coating used to seal the secondary containment berms, floor, and sump.	Daily
Cathodic Protection	Confirm proper operation of the cathodic protection systems.	Annually
	Inspect/test sources of impressed current.	Every other month
Notes: Physical visual inspection performed daily by Operator(s).		

**TABLE 5-24
ENVIRONMENTAL INSPECTION
FOR THE
IGLOO 1632 AND 1633 CONTAINER STORAGE AREAS AND
SECONDARY CONTAINMENT SYSTEMS**

ITEM 264.15(B)(1)	TYPES OF PROBLEMS 264.15(B)(3)	FREQUENCY 164.15(B)(4)
Deteriorating Containers and Secondary Containment Pallets	Inspect the containers and the secondary containment pallets for deterioration (i.e., rupture, corrosion, released material, etc.).	Weekly
Closed Containers	Ensure that all container covers/closure devices are secured in a closed position so that there are no visible holes, gaps or other open spaces into the interior of the container. R315-8-22 [40 CFR 264.108(c)(3)] identifies allowable exceptions to this requirement.	Weekly
Containers in Storage	Ensure that the total volume of containers in storage does not exceed 14,520 gallons. Ensure that the combined liquid volume ¹ within the containers on a single secondary containment (SC) pallet does not exceed 10-times the SC pallet's rated capacity. Ensure that the liquid volume ¹ of the single largest container on a secondary containment pallet does not exceed the SC pallet's rated capacity.	Weekly
Segregation of Incompatible Wastes	Ensure that incompatible waste is not placed on a secondary containment pallet as the same time.	Weekly
Container Labels	Inspect all containers in storage to ensure they are correctly labeled.	Weekly
Material Handling Equipment	Observe material handling equipment during operation to determine any loss of performance.	Weekly
General Area	Inspect Igloo 1632 and 1633 areas for apparent spills or leaks from the containers or secondary containment pallets, and for the accumulation of precipitation.	Weekly
Physical visual inspection performed throughout the week by TOCDF personnel. ¹ For the purposes of determining required secondary containment capacity, only the volume of an overpacked container needs to be considered, not the volume of the overpack itself as long as the overpack contains only the leaking container (e.g. a 55-gallon drum of liquid waste overpacked in an 85-gallon overpack contributes only 55-gallons to the required SC capacity).		

**TABLE 5-25
ENVIRONMENTAL INSPECTION
FOR THE
BRINE REDUCTION AREA POLLUTION ABATEMENT SYSTEM**

ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Process Parameters	Record differential pressure reading for each baghouse and compare the value with the previous day to determine if baghouse performance consistent.	Daily
Process Equipment Knockout Box	Inspect flanged joints joining ductwork to Knockout Box, Knockout Box manway cover, Knockout Box hopper knife gate, rotary valve, and Knockout Box flashing for salt residue buildup.	Daily
Process Equipment BRA PAS Ductwork	Inspect flanged fittings in ductwork for buildup of salt residues.	Daily
Process Equipment BRA Baghouses	Inspect hopper knife gates, rotary valves, and access doors for buildup of salt residues.	Daily
Knockout Box Discharge Container & Transfer hose	Inspect container for the presence of hazardous waste label and ensure label is dated and that the label date does not exceed 90 days. Inspect transfer hose for crack or tears. Inspect outside of container and area around container for salt residue.	Daily
Baghouse Discharge Containers & Transfer Hoses	Inspect containers for the presence of hazardous waste labels and ensure the label is dated and that the label date does not exceed 90 days. Inspect transfer hoses for cracks or tears. Inspect outside of containers and area around each container for salt residue.	Daily
Baghouse Pad Sump	Inspect sump to ensure no liquids are present in the sump. If liquids are present sample for pH and oil sheen.	Daily
Exhaust Stack Plume	Observe exhaust stack plume to ensure BRA PAS is functioning properly.	Daily
Emergency Equipment	Inspect for the presence of a charged fire extinguisher, and the presence of portable or fixed eyewash station.	Weekly
Compliance Process Parameter Instrumentation	Inspect calibration label on temperature sensing element TI-172 and Differential Pressure Transducers PDI-143, PDI-144, PDI-145, and PDI-186 to ensure that the certified calibration seal has not been broken or tampered with.	Daily
Notes: Physical visual inspection performed daily by Pollution Abatement System Operator(s).		

**TABLE 5-26
ENVIRONMENTAL INSPECTION
FOR THE
MUNITIONS DEMILITARIZATION BUILDING
VENTILATION CARBON FILTER SYSTEM**

ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Agent Monitors	Observe the values reported from the ACAMS monitoring the MDB ventilation carbon filter banks (to determine if breakthrough of any carbon bank has occurred).	Daily
Differential Pressures	Observe the values reported from the differential pressure transmitters (to determine if plugging of any carbon filter bank has occurred).	Daily
Filter System Blowers	Observe the flow rates reported by the filter system blowers (to determine if blower performance has deteriorated).	Daily
Notes: Visual inspections are performed remotely by Control Room Operator(s) through use of the data acquisition system.		

**TABLE 5-27
SAFETY AND EMERGENCY EQUIPMENT INSPECTION
FOR
EMERGENCY RESPONSE EQUIPMENT**

ITEM(quantity) 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
HAZMAT Truck with Decon Trailer	Parked in proper location, gas tank is more than half full, engine starts.	Monthly
Ton Container Repair Kit (1)	Inspect kit seal to ensure that the contents of the kit are complete. If the seal is broken inspect contents of kit.	Monthly
85 Gallon Overpacks (3)	Inspect for sufficient quantity.	Monthly
*OSHA Level A Response Suits (12)	Inspect for sufficient quantity and functionality	Monthly
OSHA Saranex Suits (6)	Inspect for sufficient quantity and functionality	Monthly
OSHA Level C Response Suits (6)	Inspect for sufficient quantity and functionality	Monthly
SCBA Packs with Bottles (6)	Inspect for sufficient quantity and functionality	Monthly
Spare Air Pack Bottles (6)	Inspect for sufficient quantity and functionality	Monthly
Respirators with particulate/organic vapor cartridges (6)	Inspect for sufficient quantity and functionality	Monthly
Non-Sparking Tool Kit (1)	Inspect for completeness of kit	Monthly
Portable Eyewash Station (1)	Inspect for functionality	Monthly
Caustic Neutralizer (10 gallons)	Inspect for sufficient quantity	Monthly
Acid Neutralizer (10 gallons)	Inspect for sufficient quantity	Monthly
Shovels (5)	Inspect for sufficient quantity	Monthly
Brooms (5)	Inspect for sufficient quantity	Monthly
Absorbent (100 lbs.)	Inspect for sufficient quantity	Monthly

TABLE 5-27 SAFETY AND EMERGENCY EQUIPMENT INSPECTION FOR EMERGENCY RESPONSE EQUIPMENT		
ITEM(quantity) 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Foot Baths (4)	Inspect for sufficient quantity	Monthly
**TAP Butyl M3 Coveralls or OSHA A Response Suits (6)	Inspect for sufficient quantity and functionality	Monthly
TAP Butyl Hood (6)	Inspect for sufficient quantity and functionality	Monthly
TAP Butyl M2 Gloves (6 pair)	Inspect for sufficient quantity and functionality	Monthly
OSHA Overboots (6 Pair)	Inspect for sufficient quantity and functionality	Monthly
TAP Butyl M2A1 Boots (6 Pair)	Inspect for sufficient quantity and functionality	Monthly
TAP Butyl M2 Aprons or OSHA Level C Coveralls (6)	Inspect for sufficient quantity and functionality	Monthly
Agent Antidote Kits (6)	Inspect for sufficient quantity	Monthly
Water for Decon (25 gallons)	Inspect for sufficient quantity	Monthly
Notes: * There are at least 12 OSHA Level A Response Suits that are stored in the PMB TAP Room. ** There are at least 6 TAP Butyl M# Coveralls or OSHA Level A Response Suits stored on the HAZMAT Truck.		

**TABLE 5-28
SAFETY AND EMERGENCY EQUIPMENT INSPECTION
FOR THE
EMERGENCY GENERATORS, SECURITY, HAZARD COMMUNICATION, &
FIRE PROTECTION SYSTEMS**

ITEM 264.15(b)(1)	TYPES OF PROBLEMS 264.15(b)(3)	FREQUENCY 264.15(b)(4)
Emergency Generators	Test each Emergency Generator by operating in either a loaded or unloaded configuration.	Monthly
Filter Generator	Test the Filter Generator by operating in either a loaded or unloaded configuration.	Monthly
Uninterruptible Power Supply	Check for Adequate Voltage.	Monthly
Emergency Power System/Uninterruptible Power Supply	Test Emergency Generators and Uninterruptible Power Supply by performing a power outage exercise. Ensure sufficient power is provided to equipment and systems designated as critical and essential loads.	Annually
Security		
Fencing	Visually inspect the fences and gates surrounding TOCDF for integrity, sight obstructions caused by vegetation, and gaps at the fence base.	Weekly
Warning Signs	Visually inspect for the presence of all signs. Sign must be legible from a distance of 50 feet.	Weekly
Outside Security Lighting	Visually inspect the lights for proper operation.	Weekly
Site Evacuation Siren	Verify operability of evacuation siren.	Weekly
Fire Protection Systems		
Halon	Verify sufficient pressure in halon storage tanks.	Six months
Control Room		
UPS/Battery Enclosures and FM-200/FE-227	Verify sufficient pressure in FM-200/FE-227 storage tanks.	Six months
Dry Chemical	Verify sufficient pressure in nitrogen propellant tanks.	Six months
Common PAS		
Toxic Chemical		
Automatic Sprinkler	Verify sufficient flow rate of water at inspector's test connection.	Annually
CHB		
UPA		
Fire Hydrants	Verify sufficient flow	Annually